

ABSTRACT OF THE DISCLOSURE

A liquid injection apparatus includes an injection unit attached to a liquid injection space which is formed by, for example, an intake pipe of an internal combustion engine, and a pressure pump for pressurizing liquid fed from a liquid storage tank to a pressure enabling injection, and for feeding the liquid to the injection unit. In order to atomize the liquid fed from the pressure pump, the injection unit includes a plurality of chambers, each of which has a piezoelectric/electrostrictive element fixed to its wall surface, and a plurality of liquid discharge nozzles. A force which is induced by liquid pressure in the chambers and imposed on the piezoelectric/electrostrictive elements via the walls of the chambers is almost completely canceled by a counterforce induced by liquid pressure in counterforce source chambers. The liquid pressure in the counterforce source chambers is substantially equal to that in the chambers.